

In re Application of: Yoav KIMCHY et al.
Serial No.: 10/616,307
Filed: July 10, 2003
Final Office Action Mailing Date: September 15, 2009

Examiner: Parikha Solanki MEHTA
Group Art Unit: 3737
Attorney Docket: 25855
Confirmation No.: 4836

REMARKS

Reconsideration of the above-identified Application in view of the amendments above and the remarks following is respectfully requested.

Claims 1-109, 113-142 and 144-164 are now pending in the Application.

Claims Objections

In section 1 of the report, the Examiner is objected to Claims 1-109, 113-142 and 144-164 because of a number of informalities. Applicant amended these claims according to the Examiner's suggestions and objection in section 1 of the report. Applicant believes that this rejection is moot as the pointed informalities were removed according to the description of the present application.

Rejections under 35 U.S.C. §102(b)

Claims 1-6, 8, 9, 11-22, 24, 31-47, 50-52, 54-69, 71, 78-90, 93, 94, 96-109, 123-131, 133, 134, 136-142, 159, 160, 163 and 164, are rejected under 35 U.S.C. §102(e) as being anticipated by US Patent No. 6,628,984 of *Weinberg* (hereinafter: "*Weinberg*").

In order to clarify the scope of the claimed invention according to the differences between *Weinberg* and the claimed invention, Applicants have amended independent claim 1, emphasizing the distinctiveness of the claimed invention in the light of *Weinberg*.

One of the distinguishing features relied upon is that amended claim 1 is related to the resolution of the images captured by the different imaging systems. Claim 1 has been amended to explicitly recite a system having a data processor that processes image data inputs of a radioactivity emitting source in a first resolution to create an image of the radioactivity emitting source in a higher second resolution. Basis for this amendment is found, *inter alia*, in paragraphs [0236]-[0237] of the present application. *Weinberg*, on the other hand, describes a handheld camera in which motion blur of a movable detector is avoided by integrating position and angulation data from a position sensor, see abstract, column 2, lines 59-67 of

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Weinberg. *Weinberg* does not teach or imply a system or a method in which the movable detector captures image data with a certain source in a certain resolution and processes it to form an image of this source in a higher resolution. *Weinberg* only allows focusing the movable detector to image different volumes of interest however does not teach or imply how to process images of the same volume in a manner that allows forming a high resolution image. There is no evidence or suggestion in *Weinberg* of a configuration in which resolution is increased. Further, the Examiner has not provided any evidence that it was conventional in the art to process low resolution image data that depicts a radioactivity emitting source to produce an image thereof with higher resolution.

Based on the above, Applicant asserts that the amended claim 1 is an allowable main claim and that dependent claims 2-6, 8, 9, 11-22, 24, 31-42, and 159 are consequently allowable as being dependent on an allowable main claim.

The arguments made above in respect of the novelty of claims 1 apply *mutatis mutandis* to independent claims 43, 90 and 123. Based on these arguments, Applicants assert that the independent claims 43, 90 and 123 are allowable main claims and dependent claims 47, 50-52, 54-69, 71, 78-90, 93, 94, 96-109, 123-131, 133, 134, 136-142 and 160 are consequently allowable as being dependent on an allowable main claim.

It should be noted that the Examiner rejected claims 163 and 164 under 35 U.S.C. §102(e) as being anticipated by *Weinberg*. However, as their base claim, claim 148, was rejected under 35 U.S.C. §103(a), Applicants believe that this rejection is moot.

35 U.S.C. § 103 Rejections

Claims 7, 49, 92, 132, 161 and 162

The Examiner rejected Claims 7, 49, 92, 132, 161 and 162 under 35 U.S.C. §103(a) as being unpatentable over *Weinberg* in view of US. Patent No. 6,680,750, hereinafter *Tournier*.

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As described above, Applicant asserts that amended claims 1, 43, 90 and 123 are allowable main claims. Thus, dependent claims 7, 49, 92, 132, 161 and 162 are consequently allowable as being dependent on an allowable main claim.

Claims 10, 23, 48, 53, 70, 91 and 95

The Examiner rejected Claims 10, 23, 48, 53, 70, 91 and 95 under 35 U.S.C. §103(a) as being unpatentable over *Weinberg*. As described above, Applicants assert that amended claims 1, 43, and 90 are allowable main claims. Thus, dependent claims 10, 23, 48, 53, 70, 91 and 95 are consequently allowable as being dependent on an allowable main claim.

Claims 25-30, 72-77 and 148-157

The Examiner rejected Claims 25-30, 72-77 and 148-157 under 35 U.S.C. §103(a) as being unpatentable over *Weinberg* in view of *Krakovitz*. As described above, Applicant asserts that amended claims 1 and 43 are allowable main claims. Thus, dependent claims 25-30 and 72-77 are consequently allowable as being dependent on an allowable main claim.

With regard to claim 148, the Examiner submits that *Weinberg* does not teach or imply an additional imager. However, the Examiner argues that *Krakovitz* teaches a combined nuclear and ultrasonic imaging method and system including a probe sized for rectal insertion wherein the nuclear and ultrasonic images are displayed on a common system of coordinates (col. 6 lines 11-25 and 62-67) and that it would have been obvious to one of ordinary skill in the art at the time of invention to have modified *Weinberg* ('984) to include the ultrasonic imaging and integration means and steps of *Krakovitz* ('423) in order to provide a more comprehensive image of the radioactivity emitting source.

Applicants respectfully disagree. Amended claim 148 recites a probe which images radioactive-emission from at least two different viewing angles of a portion of a tissue without changing the position of the housing thereof. There is no evidence or suggestion in *Krakovitz*, *Weinberg*, or in any combination thereof of a configuration

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that includes such a probe. In particular, *Krakovitz* teaches a probe in which two modalities are simultaneously used to capture and characterize data, see Abstract and summary of *Krakovitz*. *Weinberg* teaches a handheld camera and motion blur avoidance, as described above. None of them even imply such a radioactive-emission imaging. Further, the Examiner has not provided any evidence that it was conventional in the art to use such a radioactive-emission imaging.

In the instant case, Applicants conclude that an artisan having common sense at the time of the invention would not have reasonably considered embedding a *Krakovitz* within a *Weinberg's* system for implementing the claimed invention, in the manner suggested by the Examiner, as such a combination does not teach a device that allows radioactive-emission imaging from at least two different viewing angles without changing the position of its housing, as recited in amended claim 148.

In view of the above, it is submitted that independent claim 148 is patentable over the cited references, at least for the reasons described above. Claims 149-151 dependent thereon are patentable at least by virtue of their patentable parent claim.

The arguments made above in respect of the nonobviousness of claims 148 apply *mutatis mutandis* to independent claim 152. Claims 153-157 dependent thereon are patentable at least by virtue of their patentable parent claim.

Claims 113-122 and 144-147

The Examiner rejected claims 113-122 and 144-147 under 35 U.S.C. §103(a) as being unpatentable over *Krakovitz* in view of *Daghighian* and *Toumier*. The examiner rejects claims 144-147 and 113-122 on the same basis of the previous rejection as the Examiner argues that the position of the radioactive emitting source as detected by *Krakovitz* constitutes "depth position information" as claimed. The Examiner bases his arguments on Column 6, lines 11-25 and 62-67. Applicants respectfully disagree.

Amended claim 144 explicitly recites the following distinguishing limitation:

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"determining depth information of the radioactivity emitting source from the surface of the body, based on different attenuations of the first and second photon energies"

This limitation is not described in any of the cited references or in any combination thereof. Though *Krakovitz* teaches three dimensional imaging of a radioactivity emitting source it does not teach or imply determining depth of the radioactivity emitting source from the surface of the body. Moreover, it cannot be adapted or changed to disclose the aforementioned distinguishing limitation as it does not teach how to measure different attenuations of the first and second photon energies, as explicitly recited in amended claim 144. It should be noted that such a determination, which is based on different attenuations of the first and second photon energies, is not taught or implied in any of the cited references. Thus, claim 144 is patentable over the cited art. Claims 145-147 are patentable at least by virtue of their patentable parent claim 144.

It should be noted that any of *Krakovitz*, *Daghighian* or *Toumier* does not teach or imply determining depth information of the radioactivity emitting source from the surface of the body, based on different attenuations of the first and second photon energies. Therefore, Applicant finds no suggestion to combine the teachings and suggestions of *Krakovitz*, *Daghighian* and *Toumier* as advanced by the Examiner, except from using Appellants' invention as a template through a hindsight reconstruction of Appellants' claims. Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness (*In re Kahn*, 441 F. 3d 977, 988 (CA Fed. 2006) cited with approval in KSR). Applicants respectfully request from the Examiner to show such reasoning if this rejection is not considered as moot.

All of the issues raised by the Examiner have been dealt with. In view of the foregoing, it is submitted that Claims 1-109, 113-142 and 144-164, which are pending in the application, are allowable over the cited references. An early Notice of Allowance is therefore respectfully requested.

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Reconsideration and allowance of the claims herein area respectfully requested.

Respectfully submitted,

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Enclosures:

- Request for Continued Examination (RCE); and
- Petition for Extension of Time (One Month)